

WHAT IS CLAIMED IS:

1. A pharmaceutical composition for preventing or reducing tobacco smoke-associated injury in the aerodigestive tract of a subject, the pharmaceutical composition comprises, as an active ingredient, a therapeutically effective amount of an agent capable of preventing or reducing tobacco smoke-associated decrease in peroxidase activity in the aerodigestive tract of the subject, and a pharmaceutically acceptable carrier.

2. The pharmaceutical composition of claim 1, wherein said agent comprises a cyanide chelator.

3. The pharmaceutical composition of claim 1, wherein said agent is hydroxocobalamin.

4. The pharmaceutical composition of claim 1, wherein said pharmaceutically acceptable carrier is selected so as to enable administration of the pharmaceutical composition by a route selected from the group consisting of the intranasal, transdermal, intradermal, oral, buccal, parenteral, topical, ~~rectal~~ and inhalation route.

5. The pharmaceutical composition of claim 1, wherein the pharmaceutical composition is formulated as a solution, suspension, emulsion or gel.

6. The pharmaceutical composition of claim 1, wherein the pharmaceutical composition further includes a formulating agent selected from the group consisting of a suspending agent, a stabilizing agent and a dispersing agent.

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7✓ A pharmaceutical composition for preventing or reducing tobacco smoke-associated injury in the digestive tract of a subject, the pharmaceutical composition comprises, as an active ingredient, a therapeutically effective amount of an agent capable of preventing or reducing tobacco smoke-associated death of cells in the digestive tract of the subject, and a pharmaceutically acceptable carrier.

8. The pharmaceutical composition of claim 7, wherein said cells are lymphocytes.

9. The pharmaceutical composition of claim 7, wherein said agent comprises an iron chelator.

10. The pharmaceutical composition of claim 7, wherein said agent is deferoxamine.

11. The pharmaceutical composition of claim 7, wherein said pharmaceutically acceptable carrier is selected so as to enable administration of the pharmaceutical composition by a route selected from the group consisting of the intranasal, transdermal, intradermal, oral, buccal, parenteral, topical, rectal and inhalation route.

12. The pharmaceutical composition of claim 7, wherein the pharmaceutical composition is formulated as a solution, suspension, emulsion or gel.

13. The pharmaceutical composition of claim 7, wherein the pharmaceutical composition further includes a formulating agent selected from the group consisting of a suspending agent, a stabilizing agent and a dispersing agent.

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14. A pharmaceutical composition for reducing or preventing tobacco smoke-associated injury in the aerodigestive tract of a subject, the pharmaceutical composition comprises, as an active ingredient, a therapeutically effective amount of an agent capable of preventing or reducing tobacco smoke-associated death of cells in the aerodigestive tract of the subject, and a pharmaceutically acceptable carrier.

15. The pharmaceutical composition of claim 14, wherein said cells are lymphocytes.

16. The pharmaceutical composition of claim 14, wherein said agent comprises an antioxidant.

17. The pharmaceutical composition of claim 14, wherein said agent is glutathione.

18. The pharmaceutical composition of claim 14, wherein said pharmaceutically acceptable carrier is selected so as to enable administration of the pharmaceutical composition by a route selected from the group consisting of the intranasal, transdermal, intradermal, oral, buccal, parenteral, topical, rectal and inhalation route.

19. The pharmaceutical composition of claim 14, wherein the pharmaceutical composition is formulated as a solution, suspension, emulsion or gel.

20. The pharmaceutical composition of claim 14, wherein the pharmaceutical composition further includes a formulating agent selected from the group consisting of a suspending agent, a stabilizing agent and a dispersing agent.

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21.✓ An oral composition in the form of a toothpaste, powder, liquid dentifrice, mouthwash, denture cleanser, chewing gum, lozenge, paste, gel or candy comprising, as an active ingredient, an agent capable of reducing or preventing tobacco smoke-associated loss of peroxidase activity in the aerodigestive tract of a subject.

22. The oral composition of claim 21, wherein said agent comprises a cyanide chelator.

23. The oral composition of claim 21, wherein said agent is hydroxocobalamin.

24. The oral composition of claim 21, further comprising at least one flavorant selected from the group consisting of wintergreen oil, oregano oil, bay leaf oil, peppermint oil, spearmint oil, clove oil, sage oil, sassafras oil, lemon oil, orange oil, anise oil, benzaldehyde, bitter almond oil, camphor, cedar leaf oil, marjoram oil, citronella oil, lavender oil, mustard oil, pine oil, pine needle oil, rosemary oil, thyme oil, and cinnamon leaf oil.

25.✓ An oral composition in the form of a toothpaste, powder, liquid dentifrice, mouthwash, denture cleanser, chewing gum, lozenge, paste, gel or candy comprising, as an active ingredient, an agent capable of reducing or preventing tobacco smoke-associated death of cells in the digestive tract of a subject.

26. The oral composition of claim 25, wherein said cells are lymphocytes.

27. The oral composition of claim 25, wherein said agent comprises an iron chelator.

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28. The oral composition of claim 25, wherein said agent is deferoxamine.

29. The oral composition of claim 25, further comprising at least one flavorant selected from the group consisting of wintergreen oil, oregano oil, bay leaf oil, peppermint oil, spearmint oil, clove oil, sage oil, sassafras oil, lemon oil, orange oil, anise oil, benzaldehyde, bitter almond oil, camphor, cedar leaf oil, marjoram oil, citronella oil, lavender oil, mustard oil, pine oil, pine needle oil, rosemary oil, thyme oil, and cinnamon leaf oil.

30. An oral composition in the form of a toothpaste, powder, liquid dentifrice, mouthwash, denture cleanser, chewing gum, lozenge, paste, gel or candy comprising, as an active ingredient, an agent capable of reducing or preventing tobacco smoke-associated death of cells in the aerodigestive tract of a subject.

31. The oral composition of claim 30, wherein said cells are lymphocytes.

32. The oral composition of claim 30, wherein said agent comprises an antioxidant.

33. The oral composition of claim 30, wherein said agent is glutathione.

34. The oral composition of claim 30, further comprising at least one flavorant selected from the group consisting of wintergreen oil, oregano oil, bay leaf oil, peppermint oil, spearmint oil, clove oil, sage oil, sassafras oil, lemon oil, orange oil, anise oil, benzaldehyde, bitter almond oil, camphor, cedar leaf oil, marjoram oil, citronella oil, lavender oil, mustard

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oil, pine oil, pine needle oil, rosemary oil, thyme oil, and cinnamon leaf oil.

35. ✓ A filter comprising an agent being capable of reducing or preventing tobacco smoke-associated loss of peroxidase activity in the aerodigestive tract of a subject, the filter being designed and configured so as to enable release of said agent therefrom when in use by the subject.

36. The filter of claim 35, being designed and configured as a tobacco smoke filter.

37. The filter of claim 35, wherein said agent is hydroxocobalamin.

38. ✓ A filter comprising an agent being capable of reducing or preventing tobacco smoke-associated death of cells in the digestive tract of a subject, the filter being designed and configured so as to enable release of said agent therefrom when in use by the subject.

39. The filter of claim 38, wherein said cells are lymphocytes.

40. The filter of claim 38, being designed and configured as a tobacco smoke filter.

41. The filter of claim 38, wherein said agent comprises an iron chelator.

42. The filter of claim 38, wherein said agent is deferoxamine.

43. ✓ A filter comprising an agent being capable of reducing or preventing tobacco smoke-associated death of cells in the aerodigestive tract

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of a subject, the filter being designed and configured so as to enable release of said agent therefrom when in use by the subject.

44. The filter of claim 43, wherein said cells are lymphocytes.

45. The filter of claim 43, being designed and configured as a tobacco smoke filter.

46. The filter of claim 43, wherein said agent comprises an antioxidant.

47. The filter of claim 43, wherein said agent is glutathione.

48. A filter comprising an agent being capable of reducing or preventing tobacco smoke-associated loss of peroxidase activity in the aerodigestive tract of a subject, the filter being designed and configured so as to enable physico-chemical interaction between said agent and said tobacco smoke when in use by the subject.

49. The filter of claim 48, being designed and configured as a tobacco smoke filter.

50. The filter of claim 48, wherein said agent comprises a cyanide chelator.

51. The filter of claim 48, wherein said agent is hydroxocobalamin.

52. A filter comprising an agent being capable of reducing or preventing tobacco smoke-associated death of cells in the digestive tract of a

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subject, the filter being designed and configured so as to enable physico-chemical interaction between said agent and said tobacco smoke when in use by the subject.

53. The filter of claim 52, wherein said cells are lymphocytes.

54. The filter of claim 52, being designed and configured as a tobacco smoke filter.

55. The filter of claim 52, wherein said agent comprises an iron chelator.

56. The filter of claim 52, wherein said agent is deferoxamine.

57. A filter comprising an agent being capable of reducing or preventing tobacco smoke-associated death of cells in the aerodigestive tract of a subject, the filter being designed and configured so as to enable physico-chemical interaction between said agent and said tobacco smoke when in use by the subject.

58. The filter of claim 57, wherein said cells are lymphocytes.

59. The filter of claim 57, being designed and configured as a tobacco smoke filter.

60. The filter of claim 57, wherein said agent comprises an antioxidant.

61. The filter of claim 57, wherein said agent is glutathione.

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62. ✓ A method of reducing or preventing a tobacco smoke-associated decrease in peroxidase activity in the aerodigestive tract of a subject, the method comprising administering to the subject hydroxocobalamin, in an amount effective for preventing or reducing the tobacco smoke-associated decrease in peroxidase activity in the aerodigestive tract of the subject.

63. The method of claim 62, wherein said administering is effected locally or systemically.

64. The method of claim 62, wherein said administering is effected into the oral cavity.

65. ✓ A method of reducing or preventing a tobacco smoke-associated death of cells in the digestive tract of a subject, the method comprising administering to the subject deferoxamine, in an amount effective for preventing or reducing the tobacco smoke-associated death of cells in the digestive tract of the subject.

66. The method of claim 65, wherein said cells are lymphocytes.

67. The method of claim 65, wherein said administering is effected locally or systemically.

68. The method of claim 65, wherein said administering is effected into the oral cavity.

69. ✓ A method of reducing or preventing a tobacco smoke-associated death of cells in the aerodigestive tract of a subject, the method comprising administering to the subject glutathione, in an amount effective

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for preventing or reducing the tobacco smoke-associated death of cells in the aerodigestive tract of the subject.

70. The method of claim 69, wherein said cells are lymphocytes.

71. The method of claim 69, wherein said administering is effected locally or systemically.

72. The method of claim 69, wherein said administering is effected into the oral cavity.

73. A smoking product comprising an agent being capable of reducing or preventing tobacco smoke-associated loss of peroxidase activity in the aerodigestive tract of a subject, the smoking product being designed and configured so as to enable release of said agent therefrom when in use by the subject.

74. The smoking product of claim 73, wherein said agent comprises a cyanide chelator.

75. The smoking product of claim 73, wherein said agent is hydroxocobalamin.

76. A smoking product comprising an agent being capable of reducing or preventing tobacco smoke-associated death of cells in the digestive tract of a subject, the smoking product being designed and configured so as to enable release of said agent therefrom when in use by the subject.

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77. The smoking product of claim 76, wherein said cells are lymphocytes.

78. The smoking product of claim 76, wherein said agent comprises an iron chelator.

79. The smoking product of claim 76, wherein said agent is deferoxamine.

80. A smoking product comprising an agent being capable of reducing or preventing tobacco smoke-associated death of cells in the aerodigestive tract of a subject, the smoking product being designed and configured so as to enable release of said agent therefrom when in use by the subject.

81. The smoking product of claim 80, wherein said cells are lymphocytes.

82. The smoking product of claim 80, wherein said agent comprises an iron chelator.

83. The smoking product of claim 80, wherein said agent is deferoxamine.

84. A smoking product comprising an agent being capable of reducing or preventing tobacco smoke-associated loss of peroxidase activity in the aerodigestive tract of a subject, the smoking product being designed and configured so as to enable physico-chemical interaction between said agent and said tobacco smoke when in use by the subject.

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85. The smoking product of claim 84, wherein said agent comprises a cyanide chelator.

86. The smoking product of claim 84, wherein said agent is hydroxocobalamin.

87. A smoking product comprising an agent being capable of reducing or preventing tobacco smoke-associated death of cells in the digestive tract of a subject, the smoking product being designed and configured so as to enable physico-chemical interaction between said agent and said tobacco smoke when in use by the subject.

88. The smoking product of claim 87, wherein said cells are lymphocytes.

89. The smoking product of claim 87, wherein said agent comprises an iron chelator.

90. The smoking product of claim 87, wherein said agent is deferoxamine.

91. A smoking product comprising an agent being capable of reducing or preventing tobacco smoke-associated death of cells in the aerodigestive tract of a subject, the smoking product being designed and configured so as to enable physico-chemical interaction between said agent and said tobacco smoke when in use by the subject.

92. The smoking product of claim 91, wherein said cells are lymphocytes.

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93. The smoking product of claim 91, wherein said agent comprises an iron chelator.

94. The smoking product of claim ~~91~~, wherein said agent is deferoxamine.

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